

Name: _____ ()

Class: _____

Y7 Statistical Representation (Brochure)

UNIT QUESTION:

How can visual learners understand data?

CONCEPT STATEMENT:

Statistical tables and graphs are mathematical conclusions made visible.

TASK:

Create a brochure advertising the benefits of four types of statistical tables & graphs.

- Tally chart, frequency table, cumulative frequency table, or stem-and-leaf plot
- Pictogram, bar chart, compound bar chart, segment bar chart, histogram, or box-and-whisker plot
- Scatter plot, broken line graph, or trend line with extrapolation
- Pie chart

You will be given an A4 or A3 plain paper, fold it into 3 equal sections, then you will have 6 pages in total.

CHECKLIST:

Cover Page (page 1)

- Title (Statistics)
- Your own question
- Your name, class and class number
- Unit questions / Concept statement (*optional)
- Decoration (neat, tidy and colourful)

Data Table (Page 2)

- Title for the page (Data Table / Collection and Organization of Data)
- $\frac{1}{2}$ page for drawing your real table (tally/ frequency/ cumulative frequency table / stem-and-leaf diagram) *only one table or diagram is enough.
- Remember to include:
 - Tally, frequency, cumulative frequency / stem-and-leaf diagram
 - Must use ruler to draw you table
 - Give your table/ diagram a title
 - Include total for your frequency table/ unit in both steam and leaf
- $\frac{1}{2}$ page for instructions
 - What method do you use to collect data?
 - How do you organize your data?
 - Show step by step of how you draw the table...

Representation of Data (Page 3)

- Title for the page (Representation of Data: Bar chart / Compound Bar chart / Histogram)
- $\frac{1}{2}$ page for drawing your graph (1 of the above only)
- Remember to include the followings:
A clear and proper underlined **Title**,
draw, mark and label your **x-axis** (normally your item / class),
draw, mark and label your **y-axis** (normally the frequency),
units for both x- and y-axis (if necessary),
all bars are correctly drawn,
evenly spaced out (compound bar chart/ bar chart) / without spaces (histogram) ,
a key (compound bar chart/ if necessary)
- $\frac{1}{2}$ page for instructions
Why do you choose this type of graph?
Show step by step of how you draw the graph/chart...

Representation of Data (Page 4)

- Title for the page (Representation of Data 2/ Broken line graph /Scatter graph)
- $\frac{1}{2}$ page for drawing your graph (1 of the above only)
- Remember to include the followings:
A clear and proper underlined **Title**,
draw, mark and label your **x-axis** (normally your item / class),
draw, mark and label your **y-axis** (normally the frequency),
units for both x- and y-axis (if necessary),
all points are correctly drawn
a trend line (for scatter graph/ if necessary)
- $\frac{1}{2}$ page for instructions
Why do you choose this type of graph?
Show step by step of how you draw the graph/chart...

Representation of Data (Page 5 + $\frac{1}{2}$ of Page 6 / or only page 5)

- Title for the page (Representation of Data 3/ Pie Chart)
 $\frac{1}{2}$ / one-third of page 5: Draw your pie chart
 $\frac{1}{2}$ / one-third of page 5: Show your calculations of how many percentages and degree for each item, it is better to be in a table format.
- Remember to include the followings:
A clear and proper underlined **Title**,
Draw the circle with a round object or a pair of compasses,
Measure the angles with a proper protractor,
Include either % or degree within the circle,
Label different sectors of the pie chart or include a key.
Indicate units (if necessary),
- $\frac{1}{2}$ of page 6 / one-third of page 5: Give instructions or explanations
Show step by step of how your draw the graph/chart...
Is this type of graph suitable to represent your data?

Back Page (page 6 or $\frac{1}{2}$ of page 6): Criteria D

- Title for the page (Reflections and Evaluations)
Make conclusions, justify why you choose the table and graph for your brochure, reflect on the degree of accuracy and suggest method for improvement, etc.

Peer assessment

Grader's Name: _____

Grader's Class: _____

Grading Sheet for _____'s Brochure
Class: _____

	Overall Grade	Tally / (Cumulative) frequency chart / stem-and-leaf plot	(Compound) bar Chart / histogram	Line graph / scatter plot	Pie Chart
Appearance					
Completeness					
Directions					

	1 – 2	3 – 4	5 – 6
Appearance	Worn, messy & plain	Neat, tidy & colorful	Neat, tidy, colorful & creative
Completeness	Incomplete, missing some sections and items that are necessary for chart and graphs	All 6 pages done but missing some section or items that are necessary for chart and graphs	All 6 pages done and include all items that are necessary for chart and graphs
Instructions & Explanations	No at all, too simple or unclear	Make sense and clear	Very clear, easy to understand, complete sentences/ point form

Self-Assessment

Criteria C

Achievement level	Task Specific Rubric	My Grading
0	The student does not reach a standard described by any of the descriptors given below.	
1-2	The brochure is generally untidy . While graphs may be correct, it is difficult to follow how they were constructed.	
3-4	It is clear from the brochure how to construct sufficient statistical tables or graphs. Data is moved from one form to another with some success . Each graph has a clear title.	My teacher's grading / comments
5-6	It is clear how to construct statistical tables or graphs. Instructions are logical and concise . Data is moved effectively between good statistical tables or graphs according to the students' instructions. Each graph has a clear title, is logical with the independent variable on the x-axis, and is complete with axes labeled including units.	

Criteria D

Achievement level	Task Specific Rubric	My Grading
0	The student does not reach a standard described by any of the descriptors given below.	
1-2	The question chosen has some relation to real life.	
3-4	Conclusions, important to real life, are drawn from the data graphed. The student talks about how accurate they think their conclusions are.	My teacher's grading / comments
5-6	The student highlights problems with the accuracy of their conclusions . The student explains why their conclusions are important in real life . The student correctly discusses the limitations of the accuracy of their data . The student suggests better ways to display the data including different graphs or different data collection methods.	